The Investigation of Awareness and Knowledge in Patient with Severe Mental Illnesses on COVID-19 Pandemic

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ABSTRACT:
Purpose: We aimed to investigate the COVID-19 awareness, contact status and COVID-19 testing practices of SMI patients. Following the rules on infection, a face-to-face questionnaire was conducted with 203 patients with bipolar disorder and schizophrenia.
Material and Methods: Participants were evaluated with a questionnaire that inquires COVID-19 knowledge and awareness, contact history and COVID-19 testing created by researchers
Results: It was observed that the rate of COVID-19 testing was 30% in participants with at least 1 symptom, and 50% in those who were in contact with someone infected with COVID-19. It was observed that those whose COVID-19 information source was TV and social media were more familiar with the COVID-19 terminology than those whose information source was primary caregivers.
Conclusion: This study specifically measured the knowledge and awareness of SMI group patients and demonstrated the COVID-19 testing practice. Conducting specific studies for these groups and developing strategies will contribute to better management of both current and future crises.
Keywords: COVID-19 Knowledge, Severe Mental Illness, Schizophrenia, Bipolar Disorders, COVID-19 testing

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INTRODUCTION

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), the pathogen responsible for 2019 coronavirus disease (COVID-19), has caused morbidity and mortality on an unprecedented scale worldwide. The first case of coronavirus in Turkey emerged on March 11, 2020, and the World Health Organisation (WHO) announced that this newly developing virus was a pandemic (WHO, 2020) at the same date. The total number of cases in Turkey reached 2,194,272 and the number of deaths reached 20,642 on December 12, 2020, when this research was started (TR. Ministry of Health, 2020). Many measures have been taken to stop the spread of coronavirus in Turkey, as in other countries fighting this virus since then (Budak and Korkmaz, 2020). Social areas, business areas, education, and other areas of society have undergone a transformation. All non-emergency surgical and interventional procedures have been postponed, outpatient units have been closed or their service capacities have been limited to the number of personnel and beds and have been rearranged primarily to serve people infected with COVID-19. The first vaccination in Turkey started on January 14, 2021. In addition, the scientific committee within the Ministry of Health of Turkey has published a COVID-19 pandemic management and study guide. Algorithms related to possible case definitions of COVID-19, COVID-19 test guidelines, how to manage the process for workplaces and confined spaces, isolation conditions and treatment modalities in the hospital or at home are published in this guide. These algorithms have been updated at certain intervals in

light of the data of the scientific world and the process has been tried to be managed (TR Ministry of Health, 2020).

Groups such as patients with severe mental illnesses (SMI), which are especially in need, were neglected while the attention of governments, health authorities, and the scientific world was mostly on people infected with COVID-19, healthcare professionals, etc. in this challenging process (Neto et al., 2020; Spoorthy, Pratapa, Mahant 2020; Wang et al., 2020). 792 million people worldwide suffer from mental health disorders (Sukut and Ayhan Balik, 2021). "The presence of a mental, behavioural, or emotional disorder that results in severe functional impairment that significantly impedes or limits one or more main life activities" is defined as serious mental illness in the literature (NIMH, 2017). Patients with SMI have a low risk perception, they may have problems with protective measures (i.e. social distance, frequent hand washing, home isolation, etc.), personal protection and identification of physical symptoms, and following instructions given in these times of crisis in addition to cognitive impairment (Sonoda et al., 2019). This may increase the risk of COVID-19 transmission. For instance, the number of patients with mental health disorders diagnosed with COVID-19 in the Wuhan Mental Health Centre in early February 2020 was approximately 40; however, this number reached a total of 323 on February 18, 2020 (Li et al., 2020). Such situations may bring extra burden on healthcare service capacity in terms of both physical conditions related to COVID-19 and mental health. Past pandemics such as SARS have shown that they may cause panic feelings about infectious diseases due to the level of misinformation in the population, which may lead to problems in the management of the disease (Person et al., 2004; Tao, 2003). In this study, we aimed to examine the awareness and knowledge of patients with SMI about COVID-19. In addition, we aimed to examine the frequency of testing in the presence of the risk of contracting COVID-19.

MATERIAL and METHODS
Purpose and Type of the Study
This study, which was conducted to investigation of

awareness and knowledge in patient with severe mental illnesses on COVID-19 pandemic, is a cross-sectional descriptive type.

Sampling and Participant
This study was conducted in a community mental healthcare centre in Istanbul, Turkey. Istanbul is one of the critical cities in the COVID-19 pandemic due to its crowded population and location on the transit route. This centre serves patients with severe mental illness who are treated and followed up on outpatient treatment. Psychiatric examinations and treatments of patients who applied to the centre during the pandemic period were performed face-to-face in this centre in accordance with infection measures. This study was completed with 203 people diagnosed with schizophrenia (103) and bipolar disorder (100) according to the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5). The inclusion criteria of the participants were a) at least 1 year follow-up from the community mental health centre, b) between 18 and 65 years of age c) at least 1 year of disease history, d) clinically stable for the last 3 months (stabilisation was defined as the absence of hospitalisation for the last 3 months or no major change in treatment). The presence of a pre-existing intellectual disability is the exclusion criterion for the study. The interview team consisted of a psychiatrist and an occupational therapist. Verbal informed consent was obtained from the participants prior to inclusion in the study. Informed consent was obtained from the patient's primary caregivers if the patient was unable to provide valid informed consent. 213 patients were included in the study. 7 patients were excluded from the study because they did not want to participate in the study, 4 patients were excluded because their relatives did not provide consent, and 2 patients were excluded from the study considering that they were in the exacerbation period.

Data Collection Tools
Demographic information of the participants was obtained from the electronic recording system. A questionnaire created by the researchers questioning the level of awareness and knowledge

was applied to all participants. The relevant literature was reviewed by the authors working in the field of mental healthcare and a questionnaire consisting of 3 sections on COVID-19 awareness and knowledge level was designed (Muruganandam et al., 2020; Wang et al., 2020). It was questioned in the first part of the questionnaire whether any of the symptoms of COVID-19 were seen in the last 14 days. These symptoms are fever, coughing, shortness of breath, sore throat, headache, muscle ache, diarrhoea, loss of taste and smell, and skin rash. The second part of the questionnaire questions the history of COVID-19 contact. It was questioned in these questions whether they or someone close to them had a COVID-19 test, and whether the person had any contact with COVID-19 as a result of the test. The knowledge of the concepts related to COVID-19, which has started to be used frequently in national media and among the public, the source of the information obtained about COVID-19, the transmission route of COVID-19, and the known symptoms of COVID-19 were questioned in the last part of the questionnaire.

Statistical Analysis

Data analysis was performed with SPSS version 22.0 Descriptive statistics (mean, standard deviation (SD), and frequency) were calculated for all demographic and clinical variables. The relationship between these variables and COVID-19 awareness and knowledge level was found using independent sample t-test, ANOVA variance analysis, and chi square analysis. Significance limit was considered as $p \leq 0.05$ for all statistics.

Ethical Approval

This study was conducted in accordance with the principles of the Declaration of Helsinki, after obtaining the approval of the Institute Ethics Committee (AV/IEC/2020/231), between December 2020 and February 2021, at a time when there was no curfew.

RESULTS

Demographic Profile

The mean age of the participants was 43.16 (SD=12.14). The majority of the participants were female (66.1%), single (76.9%), primary school graduates (61.1%), unemployed (80.8%), without chronic disease (75.4%), and schizophrenia (50.7%) (Table 2).

Awareness of COVID-19

83.3% of the participants answered correctly the meaning of the word pandemic; 48.7% answered correctly the meaning of the word virus; 21.6% answered correctly the meaning of the word coronavirus; 21.6% answered correctly the meaning of the word COVID-19; 14.2% answered correctly the meaning of the word isolation; 3.9% answered correctly the meaning of the word filiation; 7.8% answered correctly the meaning of the word intubation; 62% answered correctly the meaning of the word outbreak; and 40.3% answered correctly the meaning of the word quarantine (Table 1). 85.2% of the participants think that COVID-19 is transmitted by respiratory routes/droplets, 83.2% by contact, 47.7% by blood, 1.9% by other routes (sexual routes, etc.) (Table 1). 12.8% could not say any symptoms, 46.9% could say at least one symptom, and 40.3% did not want to respond when the participants were asked to say as much as they knew of the symptoms of COVID-19 (Table 1).

Comparison of Descriptive Variables and COVID-19 Awareness Variables

It was observed that the number of COVID-19 symptoms (p^1) that the participants could tell and their terminology information (p^2) about COVID-19 differed significantly according to their educational status (p^1=0.023, p^2<0.001). It was observed that the participants who graduated from university could say more COVID-19 symptoms and had more terminology information related to COVID-19 compared to the high school and primary school graduates, and the participants who graduated from high school could say more COVID-19 symptoms and had more terminology information related to COVID-19 compared to the primary school graduates. In addition, it was observed that the number of known COVID-19 symptoms (p^3) and the terminology information about COVID-19 (p^4) differed significantly according to the COVID-19 information source (p^3=0.01, p^4= 0.20). It was observed that

participants who provided information from social media and TV were able to say more COVID-19 symptoms and had more terminology information related to COVID-19 compared to those who provided information from their relatives. In addition, it was observed that there was a negative significant relationship between COVID-19 terminology and having a COVID-19 test (p=0.009). Participants with more COVID-19 terminology were observed to have undergone fewer COVID-19 tests (Table 2).

Testing for COVID-19

Significant correlations were found between COVID-19 testing of participants, contact with an individual with tested positive for COVID-19, having at least one of the COVID-19 symptoms, and the presence of an individual who had tested COVID-19 in their household (p<0.001). It was also seen that 40 participants had at least one of the symptoms of COVID-19 in the last 14 days. It was determined that 12 of these participants (30%) had undergone a COVID-19 test. It was observed that 56 of the participants had people who had been tested for COVID-19 in the last 14 days. Of these participants, 19 (35.1%) were found to have undergone a COVID-19 test. It was determined that 24 participants had contact with an individual who tested positive for COVID-19 in the last 14 days. It was determined that 12 of these participants (50%) had undergone a COVID-19 test (Table 3).

Table 1. COVID-19 awareness information of SMI patients (N=203)

Variables		Categories	N(%)
Concept knowledge about COVID-19	Pandemic	Know	169 (%83.3)
		Do not know	34(%16.7)
	Virus	Know	99 (%48.7)
		Do not know	104 (%51.3)
	Corona	Know	43 (%21.1)
		Do not know	160 (%78.9)
	Covid-19	Know	44 (%21.6)
		Do not know	159 (%78.4)
	Insulation	Know	29 (%14.2)
		Do not know	174 (%85.8)
	Filiation	Know	8 (%3.9)
		Do not know	195 (%96.1)
	Intubated	Know	16 (%7.8)
		Do not know	187(%92.2)
	Epidemic	Know	126(%62.0)
		Do not know	77(%38.0)
	Quarantine	Know	82(%40.3)
		Do not know	121(%59.7)
COVID-19 transmission route	Respiratory/Droplet	Yes	171(%85.2)
		No	32(%14.8)
	Contact	Yes	169(%83.2)
		No	34(%16.8)
	Blood	Yes	97(%47.7)
		No	106(%50.3)
	Other	Yes	4(%1.9)
		No	199(%98.2)
Known COVID-19 symptoms	Do not know		108 (%53.1)
	Know 1 symptom		8 (%3.9)
	Know 2 symptoms		34 (%16.7)
	Know 3 symptoms or more		53 (%26.3)

Table 2: Comparison of descriptive variables and COVID-19 awareness variables (N=203)

Variables	Categories	Concept knowledge about COVID-19				Known COVID-19 symptoms			
		N (%)	Mean±SD	p	t/F	N (%)	Mean±SD	p	t/F
Gender	Female	44(%36.3)	2.09±1.291	.837	0.209	69(%33.9)	2.16±1.86	0.218	1.236
	Male	77(%63.7)	2.04±1.352			134(%66.1)	2.51±2.09		
Marital status	Married	30(%24.7)	2.03±1.167	.721	0.390	47(%23.1)	2.04±1.82	0.149	1.457
	Single	91(%75.3)	2.13±1.378			156(%76.9)	2.50±2.06		
Educational status	Primary school	73(%60.3)	1.99±1.359	.023*	3.877	124(%61.1)	1.87±1.87	<0.001*	18.740
	High school	32(%26.4)	1.81±1.330			48(%23.6)	2.63±1.68		
	University	16(%13.3)	2.88±0.806			31(%15.3)	4.13±2.04		
Occupational status	Working	25(%20.6)	2.24±1.165	.402	0.846	39(%19.2)	2.08±1.54	0.276	1.093
	Not working	96(%79.4)	2.01±1.365			164(%80.8)	2.47±2.11		
Chronic disease	Yes	30(%24.7)	1.77±1.455	.166	1.303	50(%24.6)	2.62±2.13	.383	.877
	No	91(%75.3)	2.15±1.273			153(%75.4)	2.32±1.97		
Diagnosis	Schizophrenia	60(%49.5)	1.98±1.396	.542	0.612	103(%50.7)	2.27±2.02	0.382	0.876
	Bipolar disorder	61(%50.5)	2.13±1.258			100(%49.3)	2.52±2.01		
Has he had a COVID-19 test?	Yes	15(%12.3)	2.20±1.424	.682	0.417	25(%12.3)	1.60±1.44	0.009*	-2.765
	No	106(%87.7)	2.04±1.31			178(%87.7)	2.51±2.06		
Has anyone had a COVID-19 test from their relatives?	Yes	37(%44.04)	2.11±1.35	.785	0.274	54(%26.6)	2.19±2.04	.381	.880
	No	84(%55.96)	2.04±1.32			149(%73.4)	2.47±2.00		
Have you had contact with COVID-19?	Yes	13(%10.7)	2.23±1.48	.659	0.451	24(%11.8)	2.33±2.03	.877	.156
	No	108(%89.3)	2.04±1.31			179(%88.2)	2.40±2.02		
Have you seen any symptoms of COVID-19 in the last 15 days?	Yes	24(%19.8)	2.04±1.33	.947	0.066	40(%19.7)	2.05±1.88	.209	1.269
	No	97(%80.2)	2.06±1.32			163(%80.3)	2.48±2.04		
Where does it get information about COVID-19?	Social media and TV	4(%3.3)	2.75 ±0.5	0.01*	3.166	9(%4.4)	3.78±1.64	0.20*	2.585
	TV and relatives	6(%4.9)	2.33±1.36			20(%9.8)	2.65±2.18		
	Social media. relatives. TV	-	-			5(%2.4)	4.40±2.19		
	Social media	4(%3.3)	2.00±2.30			6(%2.9)	2.00±2.09		
	TV	93(%76.8)	2.14±1.23			139(%68.4)	2.35±2.01		
	Relatives	6(%4.9)	0.33±.81			14(%6.8)	1.21±1.18		
	Other	2(%1.6)	3.50±.70			3(%1.4)	1.67±2.08		

Table 3. Examination of the relationship between the participants' covid-19 testing and categorical variables (N=203)

	Tested for COVID-19 N(%)	Not Tested for COVID-19 N(%)	TOTAL	P*	Ki-kare X²
Have symptoms of COVID-19	12 (%30)	28 (%70)	40 (%100)	<0.001*	14.428
Member of household tested for COVID-19	19 (%35.1)	35 (%64.9)	54 (%100)	<0.001*	35.634
Contact with an individual tested positive for COVID-19	12 (%50)	12 (%50)	24 (%100)	<0.001*	35.795

DISCUSSION

It was observed according to this study that approximately half (53.1%) of patients with SMI did not have information about COVID-19 symptoms.

The rate of patients with 3 or more symptom information was 26.3%. It was stated in another study measuring the knowledge levels of patients with SMI that 72% of patients did not have sufficient

information about COVID-19 symptoms (Muruganandam et al., 2020). It is thought that it may be associated with social isolation, cognitive insufficiency, and inability to access relevant resources in patients with SMI even though the exact cause of this situation is unknown. It was found that the participants had a good level of knowledge about COVID-19 symptoms and routes of transmission in a study conducted in the general population in Turkey (Ayhan Baser et al., 2020). Studies conducted in the general population have shown a moderate and good level of knowledge in countries (China 90%, Saudi Arabia 90.7%, Kenya 63%) (Bawazir et al., 2018; Austrian et al., 2020; Muruganandam et al., 2020). It has been observed that the level of knowledge about COVID-19 increases as the level of education increases in patients with SMI. The increase in the level of education was found to be important in terms of both increasing awareness and access to information resources according to the results of the study conducted on the general population in addition to the fact that there are not many studies on patients with SMI in the literature (Wolf et al., 2020; Zhong et al., 2020). It was observed that approximately 4/5 of the patients with SMI correctly expressed the COVID-19 transmission routes as respiration/contact (85.2% respiration, 83.2% contact). However, approximately half (47.7%) of the participants think that COVID-19 is also transmitted by blood. This suggests that there is confusion about the COVID-19 transmission route in patients with SMI; however, more studies are required in this population. The studies investigating the awareness of the COVID-19 routes of transmission on the general population were examined and it was found to be 94.5% in Turkey and 87.8% in China (Ayhan Baser et al., 2020; Zhong et al., 2020).

Sources of information on COVID-19 were found as TV news (88%), social media (63%), the press (59%) and the circle of friends (42%) in a study conducted in the first wave of the pandemic in the general population in Turkey (Inal Onal et al., 2021). Studies in different geographies have found that information about COVID-19 is mostly received from social media and the Internet, then TV and less from relatives (Abdelhafiz et al., 2020; Zhang et al., 2020; Ayhan

Baser et al., 2020). This study showed that the information source of patients with SMI was mostly TV (76.8%), followed by relatives (4.9%) and social media (3.3%). These results are consistent with similar studies on patients with SMI in the literature (Muruganandam et al., 2020). TV is an easier source for patients with SMI according to these results. Therefore, it is thought that information studies conducted through TV will contribute to the increase in knowledge and awareness. In addition, it was found that the type of information source in which information about COVID-19 was provided in patients with SMI was associated with the level of COVID-19 symptoms and concept knowledge. It has been shown that the participants whose primary caregivers are the source of information have less COVID-19 symptoms and concept knowledge level compared to those whose primary caregivers are social media and TV. This suggests that it is also important to educate primary caregivers in order to increase the awareness of patients with SMI about COVID-19.

Providing the necessary information from health ministries, healthcare professionals, and healthcare institutions during pandemic periods is important in terms of the reliability and accuracy of the information. WHO states that "in addition to isolating, testing, and treating every suspected case, monitoring every contact is the best way to prevent widespread transmission to the society (WHO, 2020). However, even though the management of COVID-19 varies from country to country, it may also vary according to the socio-demographic, cultural, and medical characteristics of different individuals in the society. This is especially important for older age groups, groups with chronic diseases, and groups in need of support. This study has shown that the rate of applying the COVID-19 test to patients with SMI is insufficient. Only 30% of the patients had a COVID-19 test when they experienced COVID-19 symptoms, and 50% of them had a COVID-19 test in the presence of contact with COVID-19 in the last 14 days. In addition, 34.1% of the patients had a COVID-19 test in the last 2 weeks if any of the individuals with whom the same house was shared had a COVID-19 test.

It was stated in the literature that patients with SMI

may not be able to identify physical symptoms well enough and these symptoms may be overlooked during the exacerbation periods even though the reasons for the low rates of COVID-19 testing in patients with SMI were not investigated in this study (Sonoda et al., 2019). Meanwhile, warnings about not going to healthcare centres unless it is very urgent, as well as additional stigmatisation concerns related to COVID-19 infection, may have caused difficulties in accessing healthcare services and therefore the COVID-19 test in addition to stigmatisation due to psychiatric disease. Patients with SMI were observed to have undergone fewer COVID-19 tests as their mastery of COVID-19 terminology increased (Table 2). This result may be associated with easier adaptation to COVID-19 measures and better management of the pandemic period as the level of knowledge increases. Meanwhile, access to different sources of information and the result of information pollution may have developed a defence for the COVID-19 test with the increase in the level of knowledge. It would be useful to conduct research on this situation in future studies.

CONCLUSION

We think that the fact that this study specifically measured the knowledge and awareness levels of the patients with SMI group and showed a picture of the COVID-19 test applications contributed to the literature. It would be beneficial to carry out information studies that include clear, simple, and accurate information through the information sources they use the most for the patients with SMI group and to develop pandemic management standards specific to this group from this point of view. We also believe that studies should be conducted to address the needs, problems and expectations of caregivers during the COVID-19 period. The limitations of this study include the fact that it is a cross-sectional study, the absence of a control group, and the lack of structured measurement methods. We think that the inclusion of healthy controls as well as the patients with SMI group will bring an important contribution to the literature in future studies.

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